

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P294582

Luminaire Tested: **BMK-30-NCL-UNV-L840-CD-U**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P294582  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1903-198-7)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: BMK-30-NCL-UNV-L840-CD-U  
Description: BENCHMARK HIGHBAY LED FIXTURE  
WITH NARROW CLEAR LENS  
Light Source: (528) 80 CRI 4000K LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

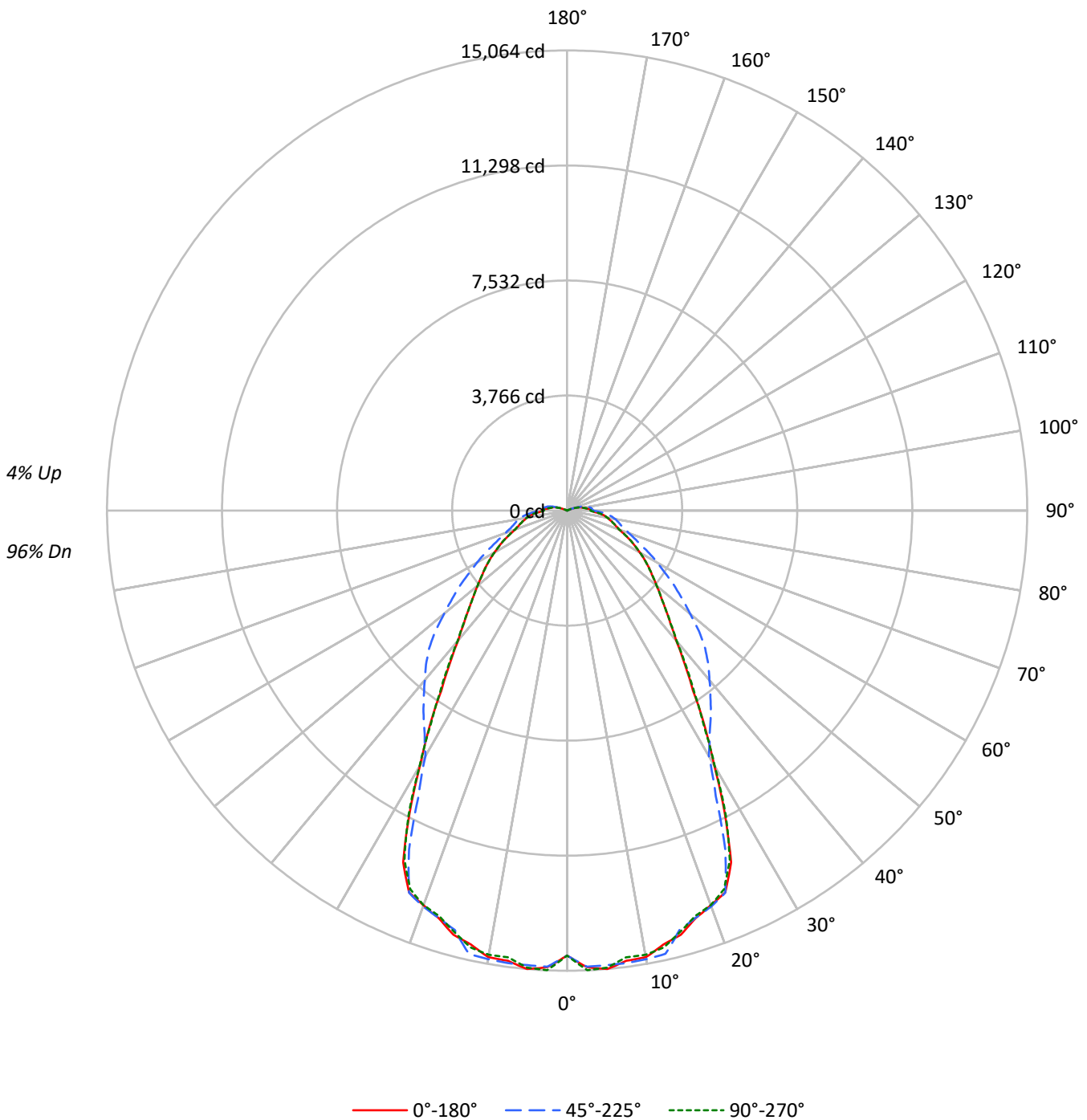
Lumens per Lamp: N/A  
Luminaire Lumens: 30258.0 lumens  
Efficiency: N/A  
Efficacy: 150.5 lumens/watt  
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.11  
Luminous Opening: Vertical Cylinder (Dia: 1.33' x H: 0.12')  
CIE Type: Direct

Input Watts (W): 201.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P294582  
CATALOG NUMBER: BMK-30-NCL-UNV-L840-CD-U

### Luminous Intensity Polar Plot





TEST NUMBER: P294582

CATALOG NUMBER: BMK-30-NCL-UNV-L840-CD-U

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20	
RC	80					70					50					30					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96				
1	108	103	99	95	105	100	96	93	95	92	89	91	88	86	86	84	82	80				
2	99	91	84	79	96	89	83	78	84	79	75	81	76	73	77	74	71	68				
3	91	81	73	67	88	79	72	66	76	70	65	72	67	63	69	65	61	59				
4	84	73	65	58	82	71	64	58	68	62	56	65	60	55	63	58	54	52				
5	78	66	58	51	76	65	57	51	62	55	50	60	54	49	58	52	48	46				
6	73	60	52	46	71	59	51	45	57	50	45	55	49	44	53	48	43	41				
7	68	55	47	41	66	54	46	41	52	45	40	51	44	40	49	43	39	37				
8	64	51	43	37	62	50	42	37	48	42	37	47	41	36	45	40	36	34				
9	60	47	39	34	58	46	39	34	45	38	34	44	38	33	42	37	33	31				
10	56	44	36	31	55	43	36	31	42	35	31	41	35	31	40	34	30	29				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	112301	112301	112301
5°	115365	114396	115042
10°	113832	114307	113223
15°	111162	109915	110452
20°	108114	108426	108075
25°	102342	98664	101503
30°	80152	77280	80504
35°	62387	71157	62926
40°	50863	66297	51045
45°	44273	62229	44297
50°	40198	55152	40224
55°	37637	49063	37438
60°	35157	43464	35157
65°	32902	38847	32902
70°	30829	36556	30786
75°	32108	37324	32007
80°	35273	42302	35207
85°	39913	48267	39820



TEST NUMBER: P294582

CATALOG NUMBER: BMK-30-NCL-UNV-L840-CD-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1417.8	4.7
10°-20°	4030.1	13.3
20°-30°	5531.7	18.3
30°-40°	4850.1	16.0
40°-50°	4151.0	13.7
50°-60°	3361.6	11.1
60°-70°	2521.4	8.3
70°-80°	1836.5	6.1
80°-90°	1257.1	4.2
90°-100°	777.2	2.6
100°-110°	451.2	1.5
110°-120°	71.3	0.2
120°-130°	1.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	10979.7	36.3
0°-40°	15829.8	52.3
0°-60°	23342.4	77.1
0°-90°	28957.4	95.7
90°-120°	1299.6	4.3
90°-150°	1300.6	4.3
90°-180°	1301.0	4.3
0°-180°	30258.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	14567	14567	14567	14567	14567	
5°	15064	14925	14937	14967	15021	###
15°	14374	14230	14212	14212	14282	4038
25°	12701	12225	12245	12245	12597	5621
35°	7183	7600	8193	7664	7245	4576
45°	4546	5292	6389	5248	4548	3543
55°	3278	3729	4273	3732	3260	2929
65°	2265	2595	2675	2583	2265	2246
75°	1558	1769	1811	1759	1553	1650
85°	1067	1159	1290	1159	1064	923
90°	784	814	854	799	762	444
95°	668	677	804	690	672	528
105°	414	424	531	417	409	418
115°	45	47	62	47	45	69
125°	0	0	0	0	0	1
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P294582

CATALOG NUMBER: BMK-30-NCL-UNV-L840-CD-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	14567.3	14567.3	14567.3	14567.3	14567.3
2.5°	14964.3	14857.6	14946.9	15006.5	15061.1
5°	15063.5	14924.6	14937.0	14966.8	15021.4
7.5°	14865.0	14716.2	14937.0	14827.8	14750.9
10°	14847.7	14607.0	14909.7	14708.7	14768.3
12.5°	14547.5	14522.6	14865.0	14619.4	14641.7
15°	14373.8	14229.9	14212.5	14212.5	14282.0
17.5°	13989.2	13902.3	13981.7	13939.6	13917.2
20°	13751.0	13711.3	13790.7	13830.4	13746.0
22.5°	13525.2	13331.6	13535.1	13366.4	13416.0
25°	12701.4	12225.0	12244.9	12244.9	12597.2
27.5°	11168.0	10890.1	10540.3	10929.8	11252.4
30°	9624.7	9706.6	9279.8	9689.2	9666.9
32.5°	8379.1	8609.9	8679.3	8619.8	8317.1
35°	7183.2	7600.0	8193.0	7664.5	7245.2
37.5°	6302.3	6875.5	7709.2	6863.1	6374.3
40°	5560.4	6242.8	7247.7	6272.5	5580.3
42.5°	5002.2	5751.5	6838.3	5721.7	5017.0
45°	4545.6	5292.5	6389.2	5247.8	4548.1
47.5°	4153.6	4868.2	5853.2	4870.7	4153.6
50°	3828.5	4409.1	5252.8	4406.7	3831.0
52.5°	3523.3	4064.3	4741.6	4034.5	3533.3
55°	3277.7	3729.3	4272.7	3731.8	3260.3
57.5°	3007.3	3424.1	3796.3	3419.1	3019.7
60°	2751.7	3123.9	3401.8	3096.6	2751.7
62.5°	2501.1	2850.9	3029.6	2853.4	2506.0
65°	2265.4	2595.4	2674.8	2583.0	2265.4
67.5°	2024.7	2347.2	2384.5	2332.4	2037.1
70°	1816.3	2138.8	2153.7	2116.5	1813.8
72.5°	1674.8	1935.4	1952.7	1940.3	1674.8
75°	1558.2	1769.1	1811.3	1759.2	1553.3
77.5°	1436.6	1610.3	1707.1	1612.8	1446.6
80°	1332.4	1461.4	1597.9	1463.9	1329.9
82.5°	1223.2	1320.0	1471.4	1325.0	1233.2
85°	1066.9	1158.7	1290.2	1158.7	1064.4
87.5°	868.4	982.6	1064.4	975.1	853.5
90°	784.1	813.8	853.5	799.0	761.7
92.5°	806.4	761.7	828.7	756.8	774.1
95°	667.5	677.4	803.9	689.8	672.4
97.5°	602.9	630.2	764.2	617.8	600.5
100°	531.0	575.6	687.3	565.7	533.5
102.5°	483.8	513.6	630.2	521.1	491.3
105°	414.4	424.3	531.0	416.8	409.4
107.5°	310.2	310.2	349.9	312.6	305.2
110°	205.9	196.0	210.9	191.1	205.9



TEST NUMBER: P294582

CATALOG NUMBER: BMK-30-NCL-UNV-L840-CD-U

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	109.2	104.2	121.6	101.7	106.7
115°	44.7	47.1	62.0	47.1	44.7
117.5°	12.4	19.8	22.3	19.8	12.4
120°	7.4	9.9	7.4	9.9	7.4
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)